IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

Claims 1-27 (canceled)

28. (currently amended) A method for protecting proliferating normal cells in an *in vitro* or *ex vivo* culture from the eradicative action of a chemotherapeutic compound (class B compound), the culture comprising said proliferating normal cells and tumor cells having an inactive p53 pathway,
said method comprising administering to said culture the chemotherapeutic compound in combination with a protective compound (class A compound),
the chemotherapeutic compound having the capability of
- exerting a cytotoxic action toward actively proliferating cells,
- not affecting survival and proliferative potential of interphase cells,

the protective compound having the capability of
- reversibly inhibiting cytodieresis of normal cells,
- not inhibiting the biological action of said chemotherapeutic compound and,

wherein a pre-treatment with said protective compound is carried out for a time from 24 hours to 48 hours before the combined treatment with class A and class B compounds and the administration of said protective compound results in the protection of at least part of said proliferating normal cells wherein, after combined treatment, a post treatment is carried out including interrupting the administration of said class B compound and washing said class B compound off the culture for a time greater than or equal to 3 hours while maintaining the administration of said class A compound.

29. (previously presented) The method according to claim 28, wherein the pre-treatment with the protective compound results in the arrest at interphase of at least part of said normal cells.

30. (previously presented) The method according to claim 29, wherein the pre-treatment is carried out for a time greater than or equal to the cell cycle duration of said proliferating normal cell.

Claim 31 (canceled)

32. (previously presented) The method according to claim 31, wherein the combined treatment is carried out for a time greater than or equal to the cell cycle duration of said tumor cells having an inactivated p53 pathway.

Claim 33 (canceled)

34. (previously presented) The method according to claim 30, wherein said combined treatment, pre-treatment and/or post-treatment is repeated twice or more.

35. (previously presented) The method according to claim 28, wherein the chemotherapeutic compound (class B compound) is selected from the group consisting of folate inhibitors, nucleoside analogues, nucleotide synthesis inhibitors, vinca alkaloids, taxanes, colchicine derivatives, podophillotoxin derivatives, and topoisomerase inhibitors and the protective compound (class A compound) is selected from the group consisting of cytochalasins, jasplakinolides, chondramides, isoindolinones, and latrunculines, with the exclusion of cytochalasin B.

36. (previously presented) The method according to claim 35, wherein said protective compound is selected from the group consisting of the cytochalasin D, dihydrocytochalasin B, jasplakinolide, chondramide B and latrunculin B.

37. (previously presented) The method according to claim 35, wherein said chemotherapeutic compound is selected from the group consisting of trifluorothymidine, cytarabine, 6-thioguanine, 6-mercaptoputrine, gemcytabine, fludarabine, floxuridine,

ftorafur, methotrexate, trimetrexate, raltitrexed, edatrexate, lometrexol, hydroxyurea, vincristine, vinblastine, vinorelbin, vindesine, paclitaxel, docetaxel, irinotecan, topotecan, 9-amino-S(20)-camptothecine.

38. (previously presented) The method according to claims 28, wherein C3H10T1/2 cells or cells derived therefrom are used as model cells.

39. (previously presented) The method according to claim 38, wherein C3H10T1/2 cells or cells derived therefrom are used as model cells for identifying a protective compound and/or a chemotherapeutic compound.

40. (currently amended) A method for protecting proliferating normal cells in an *in vivo* treatment of tumor cells having an inactive p53 pathway, from the eradicative action of a chemotherapeutic compound (class B compound),
said method comprising administering the chemotherapeutic compound in combination with a protective compound (class A compound),
the chemotherapeutic compound having the capability of

- exerting a cytotoxic action toward actively proliferating cells,
- not affecting survival and proliferative potential of interphase cells,

the protective compound having the capability of

- reversibly inhibiting cytodieresis of normal cells,
- not inhibiting the biological action of said chemotherapeutic compound and,

wherein a pre-treatment with said protective compound is carried out <u>for a time from 24 hours to 48 hours</u> before the combined treatment with class A and class B compounds and the administration of said protective compound results in the protection of at least part of said proliferating normal cells, and wherein, after combined treatment, a post treatment is carried out including interrupting the administration of said class B compound and washing said class B compound off the tissues for a time greater than or equal to 3 hours while maintaining the administration of said class A compound.

41. (previously presented) The method according to claim 40, wherein the pre-treatment with the protective compound results in the arrest at interphase of at least part of said normal cells.

42. (previously presented) The method according to claim 41, wherein the pre-treatment is carried out for a time greater than or equal to the cell cycle duration of said proliferating normal cell.

Claim 43 (canceled)

44. (previously presented) The method according to claim 40, wherein the combined treatment is carried out for a time greater than or equal to the cell cycle duration of said tumor cells having an inactivated p53 pathway.

Claim 45 (canceled)

46. (previously presented) The method according to claim 42, wherein said combined treatment, pre-treatment and/or post-treatment is repeated twice or more.

47. (previously presented) The method according to claim 40, wherein the chemotherapeutic compound (class B compound) is selected from the group consisting of folate inhibitors, nucleoside analogues, nucleotide syntesis inhibitors, vinca alkaloids, taxanes, colchicine derivatives, podophillotoxin derivatives, and topoisomerase inhibitors and the protective compound (class A compound) is selected from the group consisting of cytochalasins, jasplakinolides, chondramides, isoindolinones, and latrunculines, with the exclusion of cytochalasin B.

48. (previously presented) The method according to claim 47, wherein said protective compound is selected from the group consisting of the cytochalasin D, dihydrocytochalasin B, jasplakinolide, chondramide B and latrunculin B.

49. (previously presented) The method according to claim 47, wherein said chemotherapeutic compound is selected from the group consisting of trifluorothymidine, cytarabine, 6-thioguanine, 6-mercaptoputrine, gemcytabine, fludarabine, floxuridine, ftorafur, methotrexate, trimetrexate, raltitrexed, edatrexate, lometrexol, hydroxyurea, vincristine, vinblastine, vinorelbin, vindesine, paclitaxel, docetaxel, irinotecan, topotecan, 9-amino-S(20)-camptothecine.

50. (previously presented) The method according to claim 40, wherein the tumor is a tumor form having a low proliferating potential.

51. (previously presented) The method according to claim 40, wherein the tumor form is a hyperproliferative lesion cause by papilloma virus.

52. (currently amended) A method for protecting normal cells in an *in vivo* treatment of a pathological infection caused by microorganisms displaying no p53 function, from the eradicative action of a chemotherapeutic compound (class B compound),
said method comprising administering the chemotherapeutic compound in combination with a protective compound (class A compound),
the chemotherapeutic compound having the capability of

- exerting a cytotoxic action toward actively proliferating cells,
- not affecting survival and proliferative potential of interphase cells,

the protective compound having the capability of

- reversibly inhibiting cytodieresis of normal cells,
- not inhibiting the biological action of said chemotherapeutic compound,

wherein the administration of said protective compound results in the protection of at least part of said normal cells, wherein a pre-treatment with said protective compound is carried out <u>for a time from 24 hours to 48 hours</u> before the combined treatment with class A and class B compounds and wherein, after combined treatment, a post treatment is carried out including interrupting the administration of said class B

compound and washing said class B compound off for a time greater than or equal to 3 hours while maintaining the administration of said class A compound.

53. (previously presented) A method for preventing and treating halopecia associated to a systemic treatment with a chemotherapeutic compound, said method comprising administering the chemotherapeutic compound in combination with a protective compound, the chemotherapeutic compound having the capability of

- exerting a cytotoxic action toward actively proliferating cells,
- not affecting survival and proliferative potential of interphase cells,

the protective compound having the capability of

- reversibly inhibiting cytodieresis of normal cells,
- not inhibiting the biological action of said chemotherapeutic compound, wherein a pre-treatment with said protective compound is carried out before the combined treatment with class A and class B compounds, and wherein, after combined treatment, a post treatment is carried out including interrupting the administration of said class B compound and washing said class B compound off for a time greater than or equal to 3 hours while maintaining the administration of said class A compound.

54. (previously presented) The method according to claims 52 or 53 wherein the chemotherapeutic compound is selected from the group consisting of folate inhibitors, nucleoside analogues, nucleotide synthesis inhibitors, vinca alkaloids, taxanes, colchicine derivatives, podophillotoxin derivatives, and topoisomerase inhibitors and the protective compound is selected from the group consisting of cytochalasins, jasplakinolides, chondramides, isoindolinones, and latrunculines, with the exclusion of cytochalasin B.

55. (previously presented) The method according to claim 54, wherein said protective compound is selected from the group consisting of the cytochalasin D, dihydrocytochalasin B, jasplakinolide, chondramide B and latrunculin B.

56. (previously presented) The method according to claim 54, wherein said chemotherapeutic compound is selected from the group consisting of trifluorothymidine, cytarabine, 6-thioguanine, 6-mercaptoputrine, gemcytabine, fludarabine, floxuridine, ftorafur, methotrexate, trimetrexate, raltitrexed, edatrexate, lometrexol, hydroxyurea, vincristine, vinblastine, vinorelbin, vindesine, paclitaxel, docetaxel, irinotecan, topotecan, 9-amino-S(20)-camptothecine.

Claim 57 (canceled)

58. (currently amended) A pharmaceutical composition for selectively eradicating cells having inactive p53 pathway according to the method of claim 40 comprising therapeutically effective amounts of a protective compound, a chemotherapeutic compound and a pharmaceutically acceptable vehicle, carrier or auxiliary agent, the chemotherapeutic compound having the capability of

- exerting a cytotoxic action toward actively proliferating cells,
- not affecting survival and proliferative potential of interphase cells,

the protective compound having the capability of

- reversibly inhibiting cytodieresis of normal cells,
- not inhibiting the biological action of said chemotherapeutic compound, wherein

the release of the chemotherapeutic compound is retarded with respect to the release of the protective compound.

59. (previously presented) Pharmaceutical composition according to claim 58, wherein the chemotherapeutic compound is selected from the group consisting of folate inhibitors, nucleoside analogues, nucleotide synthesis inhibitors, vinca alkaloids, taxanes, colchicine derivatives, podophillotoxin derivatives, and topoisomerase inhibitors and the protective compound is selected from the group consisting of cytochalasins, jasplakinolides, chondramides, isoindolinones, and latrunculines, with the exclusion of cytochalasin B.

60. (previously presented) Pharmaceutical composition according to claim 59 wherein said protective compound is selected from the group consisting of the cytochalasin D, dihydrocytochalasin B, jasplakinolide, chondramide B and latrunculin B.

61. (previously presented) Pharmaceutical composition according to claim 59, wherein said chemotherapeutic compound is selected from the group consisting of trifluorothymidine, cytarabine, 6-thioguanine, 6-mercaptoputrine, gemcytabine, fludarabine, floxuridine, ftorafur, methotrexate, trimetrexate, raltitrexed, edatrexate, lometrexol, hydroxyurea, vincristine, vinblastine, vinorelbin, vindesine, paclitaxel, docetaxel, irinotecan, topotecan, and 9-amino-S(20)-camptothecine.

62. (previously presented) Pharmaceutical composition according to 58 in the treatment of a tumor form having an inactive p53 pathway or in the treatment of pathological infection associated to a microorganism having no p53 function or in the treatment of hyperproliferative lesions caused by papillomavirus infection.

63. (currently amended) A kit of parts for selectively eradicating cells having an inactive p53 pathway according to the method of claim 40 and selectively protecting proliferating normal cells comprising a protective compound and a chemotherapeutic compound, the chemotherapeutic compound having the capability of

- exerting a cytotoxic action toward actively proliferating cells,
- not affecting survival and proliferative potential of interphase cells,

the protective compound having the capability of

- reversibly inhibiting cytodieresis of normal cells,
- not inhibiting the biological action of said chemotherapeutic compound, the kit being for the sequential administration of the protective compound alone firstly, and then of the association of the protective and chemotherapeutic compounds.

64. (previously presented) Kit of parts according to claim 63 in the treatment of a tumor form having an inactive p53 pathway or in the treatment of pathological infection

associated to a microorganism having no p53 function or in the treatment of hyperproliferative lesions caused by papillomavirus infection.

65. (previously presented) Kit of parts according to claim 63 wherein the chemotherapeutic compound is selected from the group consisting of folate inhibitors, nucleoside analogues, nucleotide syntesis inhibitors, vinca alkaloids, taxanes, colchicine derivatives, podophillotoxin derivatives, and topoisomerase inhibitors and the protective compound is selected from the group consisting of cytochalasins, jasplakinolides, chondramides, isoindolinones, and latrunculines, with the exclusion of cytochalasin B.

66. (previously presented) Kit of parts according to claim 65 wherein said protective compound is selected from the group consisting of the cytochalasin D, dihydrocytochalasin B, jasplakinolide, chondramide B and latrunculin B.

67. (previously presented) Kit of parts according to claim 65, wherein said chemotherapeutic compound is selected from the group consisting of trifluorothymidine, cytarabine, 6-thioguanine, 6-mercaptoputrine, gemcytabine, fludarabine, floxuridine, ftorafur, methotrexate, trimetrexate, raltitrexed, edatrexate, lometrexol, hydroxyurea, vincristine, vinblastine, vinorelbin, vindesine, paclitaxel, docetaxel, irinotecan, topotecan, 9-amino-S(20)-camptothecine.

Claims 68-70 (canceled)

71. (previously presented) The method according to claim 28, wherein the pre-treatment is carried out for a time greater than or equal to the cell cycle duration of said proliferating normal cell.

72. (previously presented) The method according to claim 40, wherein the pre-treatment is carried out for a time greater than or equal to the cell cycle duration of said proliferating normal cell.